

REMARKS

Claims 1, 4-10, 13, and 15-29 have been amended. Claims 3 and 30 have been cancelled without prejudice or disclaimer. Claims 1-2 and 4-29 are currently pending.

Claims 1, 4-10, 13, and 15-29 have been generally amended in a non-narrowing fashion for the sake of improved clarity.

It is noted that the Examiner found claims 22, 23, and 28 to contain allowable subject matter.

Claim Objections

Examiner has suggested that claim 1 be amended to add the term “said” before the term “measured” in the final line of claim 1. For improved clarity, claim 1 has been amended to replace the expression “measured Raman scattered electromagnetic radiation” with the expression —Raman scattered electromagnetic radiation measured by said detector.—

Examiner has suggested that the phrase “A Fourier” in claim 13 be replaced with the phrase —a Fourier—. Claim 13 has been amended in the manner suggested by Examiner.

Examiner has suggested that claims 25, 26 and 28 be amended to depend on claims 24, 25 and 26, respectively. The dependencies of claims 25, 26 and 28 have been amended in the manner proposed by Examiner.

Claim Rejections-35 USC 112

Examiner has objected to the use of the trademarks TEFLON and SPECTRALON in claims 5, 7, 18 and 23. Claims 5, 7, 18 and 23 have been amended to delete these trademarks.

Examiner has objected to the use of the expressions “and any other material of similar optical properties” and “any other layers used in the field for reflection enhancement and surface protection” in claims 5, 7, 9 and 10. Claims 5, 7, 9 and 10 have been amended to delete the above expressions.

Examiner has indicated that it is unclear which further limitations claims 20 and 21 set forth. Claim 20 and 21 have been amended to clarify that the integrating cavity comprises two or more than two ports coupled to the first optical element, and the second optical element, respectively.

Claim Rejections—35 USC 102

Examiner has rejected claims 1-11, 13-14, 16-21 and 30 under 35 U.S.C. 102(b) as being anticipated by Ozaki et al. Examiner has also rejected claims 1-15, 20, 21, 24-27, 29 and 30 under 35 U.S.C. 102(e) as being anticipated by Yang et al. Examiner's rejections against claims 3 and 30 have been rendered moot by the cancellation of these claims. Applicant has addressed Examiner's rejections against claims 1-2, 4-21, 24-27 and 29 by way of the foregoing amendments and by way of the comments set forth below.

Ozaki discloses an apparatus comprising an excitation light source (1a), converging lenses (2a, 2b) and mirror (2c) for converging excitation light from the light source on a sample, a measuring part comprising a sample cell holder (4a) and a flow cell type sample cell (4b), converging lenses (5a, 5b) for converging scattered light generated from the sample, a detector and controller (7a), and a computer (8) for performing data processing (column 7, line 53 to column 9, line 24). Ozaki et al. does not teach or suggest that the disclosed measuring part may comprise a radiation expanding element for expanding electromagnetic radiation before the electromagnetic radiation comes into contact with the sample, as recited in independent claims 1, 24, and 29.

Yang et al. discloses an apparatus comprising an excitation laser source (140), a sampling port (146) comprising a housing (22) and a converging lens (30), a Raman spectrophotometer (156) and a data analyzer (157). The laser beam from the excitation source is passed through a beam expander (141) to produce a collimated laser beam having an increased diameter (column 5, line 40 to column 6, line 4). The converging lens (30) focuses an exciting laser beam onto a small area containing a sample (column 7, lines 1-3 and 52-54). Yang et al. does not, however, teach or suggest that the disclosed sampling port may be modified to replace the converging lens with a diverging lens or a radiation expanding element, for expanding electromagnetic radiation before the electromagnetic radiation comes into contact with the sample, as recited in independent claims 1, 24, and 29.

In particular, neither Ozaki et al. nor Yang et al. disclose the integrating cavity, as presently claimed, which comprises i) one or more than one port for insertion of a sample and for transmission of electromagnetic radiation into and out of the integrating cavity, and ii) a **radiation expanding element** for expanding the electromagnetic radiation before the electromagnetic radiation beam comes into contact with the sample.

In addition, neither Ozaki et al. nor Yang et al. teach or suggest an apparatus for measuring Raman scattered radiation comprising the integrating cavity described above and as presently claimed.

Furthermore, neither Ozaki et al. nor Yang et al. teach or suggest a method for measuring a concentration of one or more than one chemical compound in a sample using Raman scattering, which comprises directing an electromagnetic radiation beam through an integrating cavity comprising a **radiation expanding element** so that before the radiation beam comes into contact with the sample an expanded beam having a specific radiation power density smaller than a predetermined tolerance limit for the sample is produced, as presently claimed.

Based on the foregoing, claims 1-2, 4-21, 24-27 and 29 are novel in view of the cited references.

Removal of the rejections under 35 U.S.C. 102 is, therefore, respectfully requested.

It is respectfully submitted that the above-identified application is now in a condition for allowance and favorable reconsideration and prompt allowance of these claims are respectfully requested. Should the Examiner believe that anything further is desirable in order to place the application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Dated: _____

1/14/05



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